

ZERO-ORDER
MICROPHONE
(OMNI DIRECTIONAL)

FIGURE 1A
(PRIOR ART)

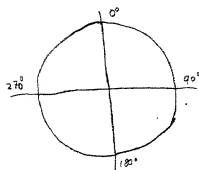


FIGURE 1B
(PRIOR ART)

FIRST-ORDER
MICROPHONE

$$DR = \frac{1}{2} \frac{V_p}{V_0}$$

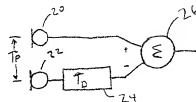


FIGURE 2A
(PRIOR ART)

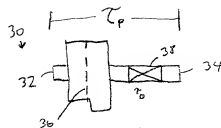


FIGURE 2B
(PRIOR ART)

DR = 0
BIPOLOAR

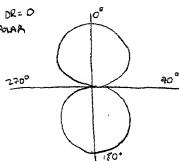


FIGURE 2C
(PRIOR ART)

DR = 0.33
HYPERCARDIOID

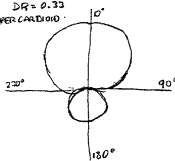


FIGURE 2D
(PRIOR ART)

DR = 0.58
SUPER CARDIOID

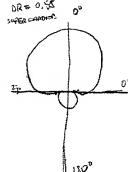


FIGURE 2E
(PRIOR ART)

DR = 1
CARDIOID

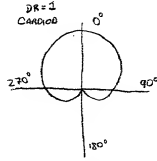


FIGURE 2F
(PRIOR ART)

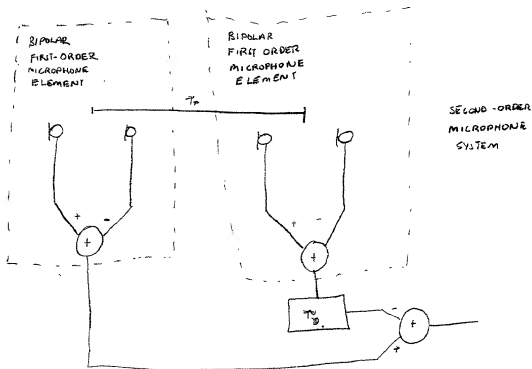


FIGURE 3A
(PRIOR ART)

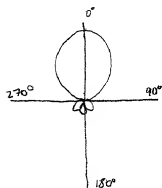


FIGURE 3B
(PRIOR ART)

005020-88101960

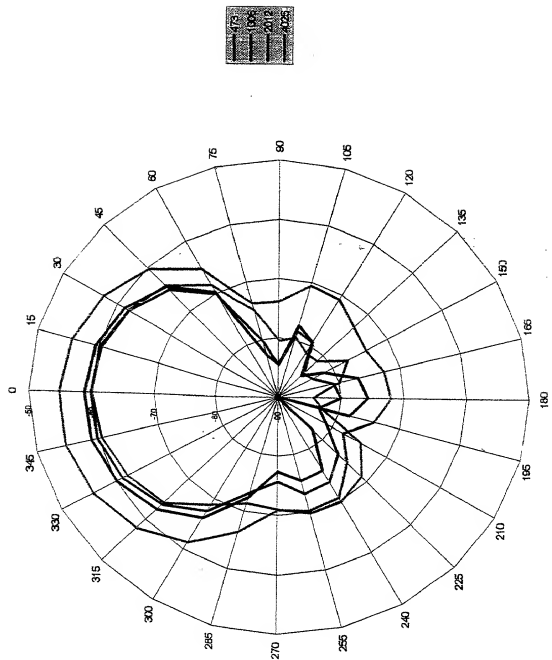


FIGURE 4A

005070-88101960

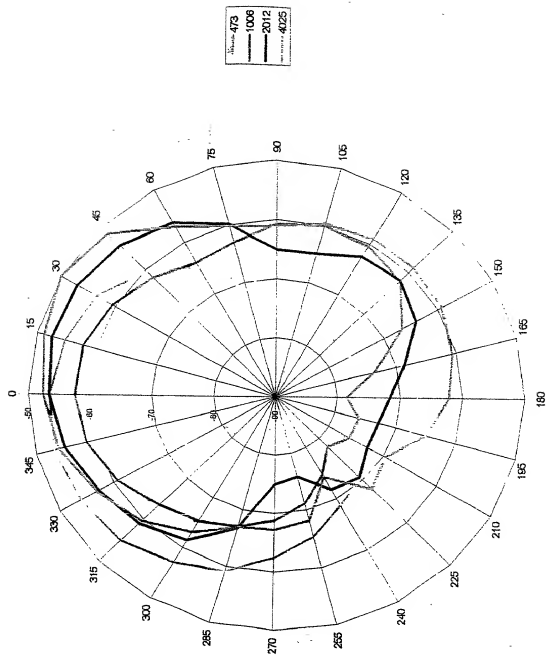


FIGURE 48

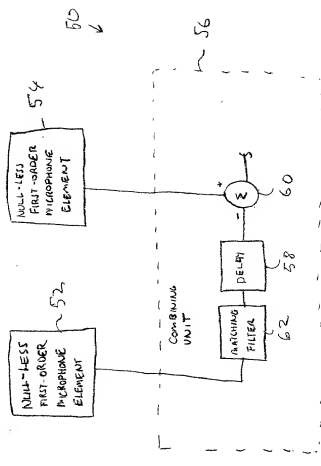


FIGURE 5

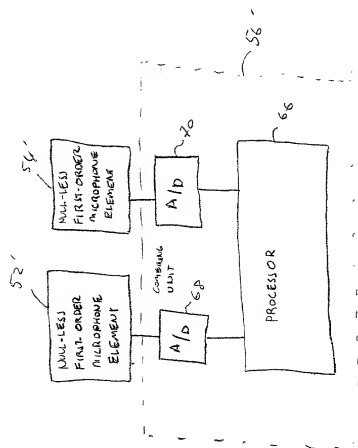


FIGURE 6

005020*88101560

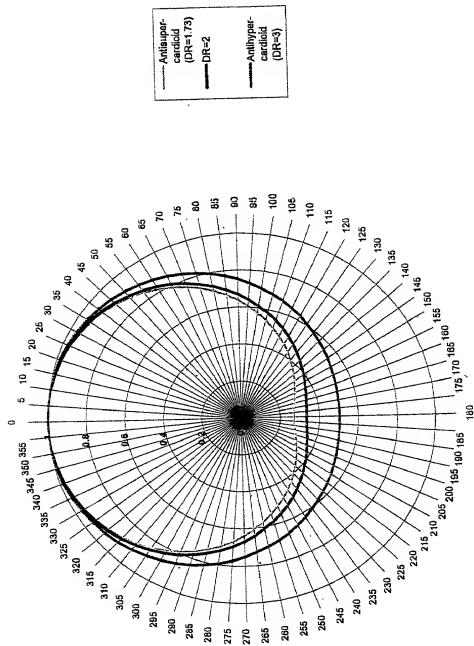


FIGURE 7

005070-83101960

FORM 1

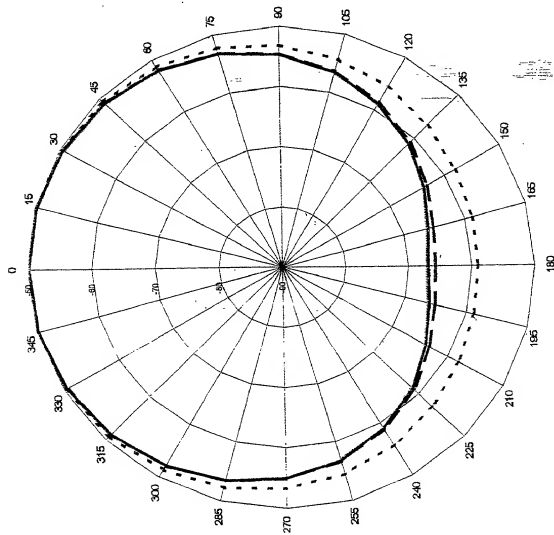


FIGURE 3A

005020-88101968

POLAR PLOT - 1 METER

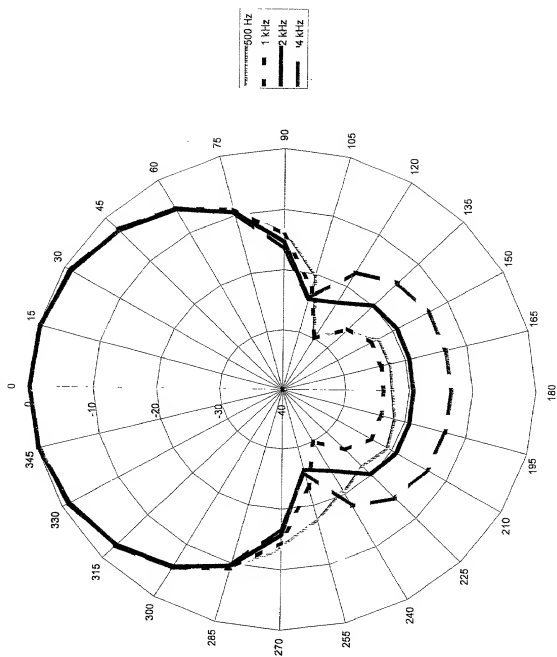


Figure 3.8

005070-88101960

POLAR PLOT - 1 METER

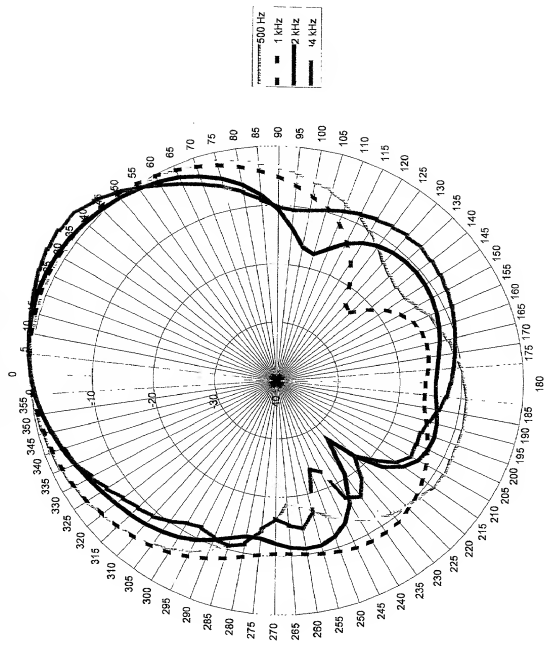


FIGURE 8C

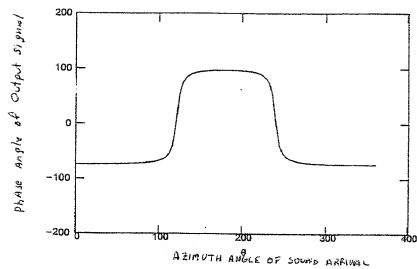


FIGURE 9A

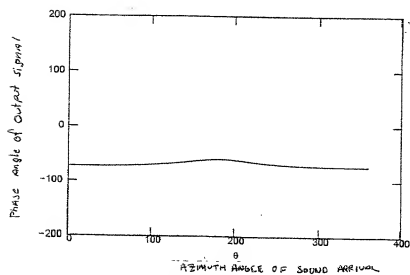


FIGURE 9B

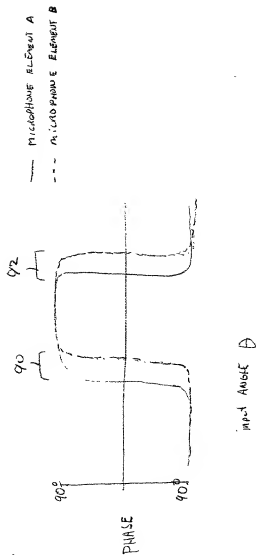


FIGURE 10

ELEMENT TYPE	Conventional Elements				New Elements			
	Bipolar (Figure 8) $DR=0$	Hyper-Cardioid $DR=0.33$	Super-Cardioid $DR=0.58$	Cardioid $DR=1$	Anti-SupCard. $DR=1.73$	$DR=2$	$DR=2.5$	Anti-HypCard. $DR=3$
Theoretical DI	9.0	8.7	9.3	9.0	7.9	7.7	7.4	7.2
1.5 dB Element Mismatch	5.6	5.4	2.0	3.2	5.3	6.1	6.4	6.5
5° Misalignment	4.5	3.8	2.7	4.6	6.3	6.5	6.6	6.6
2 μ s Delay Error	3.1	2.6	1.8	3.0	5.0	5.4	5.8	6.0
Misalignment and Delay Error Combined	3.8	3.5	2.9	3.6	5.0	5.2	5.6	5.8

FIGURE 11

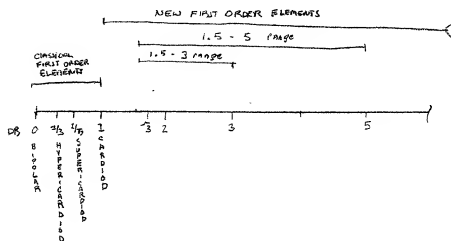


FIGURE 12

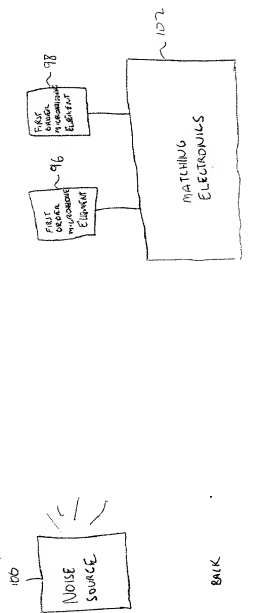


FIGURE 13